

102,677

PATENT

SPECIFICATION



*Application Date, May 4, 1916. No. 6376/16.*

*Complete Accepted, Dec. 21, 1916.*

COMPLETE SPECIFICATION.

**A Device for Drying, Cooking, Roasting and Baking Foods and other Articles.**

I, WILLIAM FULLARD, of Burlington, in the County of Burlington, State of New Jersey, United States of America, Mechanician, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 My invention consists of an improved device of the hot air type for drying vegetables, fruit, etc., baking, roasting and cooking foods and other articles.

The device comprises an oven with a movable wire gauze or other open work support therein and on which the article or material is placed, means for heating fresh air and means for directing the heated air on to the article or material 10 being treated, at opposite sides thereof. The movable support may be in the form of an endless travelling band or a reciprocating frame with wire gauze pan thereon.

Figure 1 represents a partial longitudinal horizontal section, and a partial plan view of the device.

15 Figure 2 represents a longitudinal vertical section thereof on the line  $x-x$  Figure 3.

Figure 3 represents a transverse vertical section on the line  $y-y$  Figure 2.

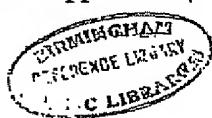
Figure 4 represents a partial transverse section, and a partial elevation of the heat producing mechanism for the device on a reduced scale.

20 Figures 5, 6, 7, 8 and 9 represent views of other embodiments of my invention.

1 designates an oven in which are mounted on opposite ends thereof the rollers 2 and 3 around which are run the endless chains or flexible or articulated conveyors 4 to which is attached the endless apron forming a travelling or 25 movable support 5, composed of a body of reticulated gauze or other open work through which heat may be directed and circulate in opposite directions.

Above and below said support are the heat-receiving pipes 6 and 7 which are properly supported on the walls of the oven. The pipes 6 have jet openings 8 in their lower portions, and the pipes 7 have jet openings 9 in their upper portions, whereby heated air from said pipes will be ejected therefrom respectively to the upper and lower faces of said support, and consequently reach the goods or material placed thereon on the top and bottom thereof.

The oven has in its upper wall an inlet 10 for supplying the support with  
[Price 6d.]



goods or material, and, in a suitable portion opposite to said inlet, an outlet 11 for discharging said goods in dried or baked condition.

In order to supply the pipes 6 and 7 with hot fresh air there is connected with the same and confluent therewith, the pipe 12 which enters the hood or casing 13, where it is continued in the form of a coil 12<sup>x</sup>, below which or adjacent to it is 5 the burner 14, to which gas is supplied in any suitable manner.

Continuous of the coil 12<sup>x</sup> is the pipe 15 which extends outside of the hood 13 and joins the casing of the blower 16, whereby air will be driven into the coil 12<sup>x</sup>, and as the gas of the burner 14 is ignited directly or indirectly fresh air from the atmosphere will be highly heated and directed to the pipes 6 and 7 10 and ejected forcibly therefrom against the goods or material on opposite sides thereof, the heat circulating through the open-work support and in the oven, thus effectively drying or baking the goods or material, it being noticed that motion is imparted to the support 5 by the driving pulley 17 and its shaft 18, which shaft is mounted on the sides of the oven, and which pulley receives 15 power in any suitable manner, it being evident that the support traverses the oven and so subjects the goods or material gradually and successively to the heat as aforesaid from the inlet to the outlet of the oven, thus effectively and uniformly drying or baking said goods or material, and, as evident, on both sides thereof.

Should it be desired to slice or cut the goods or material preparatory to introducing them into the oven at the inlet 9, I employ the hopper 19 which is supported on the oven adjacent to said inlet, and has its bottom open in communication with said inlet. A blade or knife 20 is adapted to enter said hopper and receive up and down motions by the driving pulley 21, which receives 25 motion in any suitable manner, and has eccentrically thereon the wrist pin 22 on which is mounted the lower end of the connecting rod 23, the upper end whereof is pivotally connected with the head 24 of the blade or cutter 20, whereby the latter is lowered and raised and so reaches the goods or material in the hopper so as to slice, cut or sever the same, after which the resultant pieces 30 or sections drop through the inlet 10, into the oven upon the travelling support 5 where they are dried, or baked, as in the previous instance.

The hopper has therein at the base thereof adjacent to the path of the blade or cutter 20, the adjustable gauge 25 to regulate the lengths or sections of the pieces of goods or material sliced, cut or severed.

The inlet 10 will be closed by the lid or door 26, so as to retain the heat in the oven, and access to the interior of the latter may be had through the lid or door 27, in the present case, at the top of the oven.

In Figures 5, 6, 7, 8 and 9, I show a reciprocating support 28 adapted to carry the open work pan 5, it being mounted slidably on the ways 29 and receiving motion from the crank shaft 30, whose bearings 31 are connected with the supporting frame of the oven, said shaft 30 having mounted on it the connecting rods 32, to which are jointed the rods 33, said crank shaft carrying the driving pulley 34 which is adapted to receive power from any suitable source.

The air heater has a chamber 35 intermediate of the coil 12<sup>x</sup> and blower 16, to 45 receive a large volume of air under pressure, prior to entering said coil, thus directing greater quantities of heat with increased force to the pan 5 and the interior of the oven.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that 50 what I claim is:—

1. A device for drying, cooking, roasting and baking foods and other articles comprising, in combination, an oven, means for producing heated air and directing it into said oven, and a movable support in said oven for the article or material to be acted upon, said support being adapted to allow said heated fresh 55 air to be directed therethrough in opposite directions, substantially as described.

2. A device such as claimed having in conjunction therewith means for cutting articles before being treated.

3. A device such as claimed made substantially as hereinbefore described and shown under modifications on the drawings annexed.

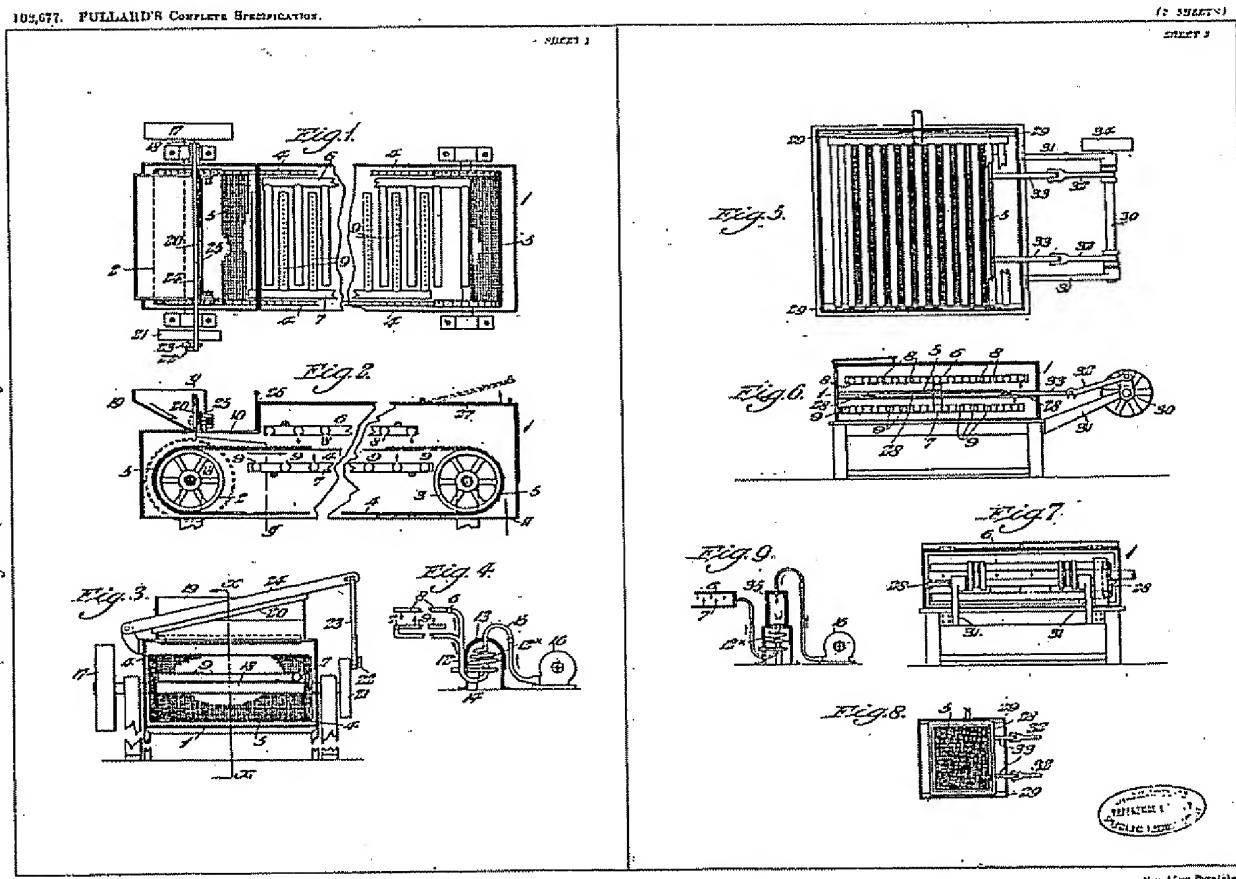
5 Dated this 3rd day of May, 1916.

H. D. FITZPATRICK & Co.,  
Chartered Patent Agents,  
94, Hope Street, Glasgow.

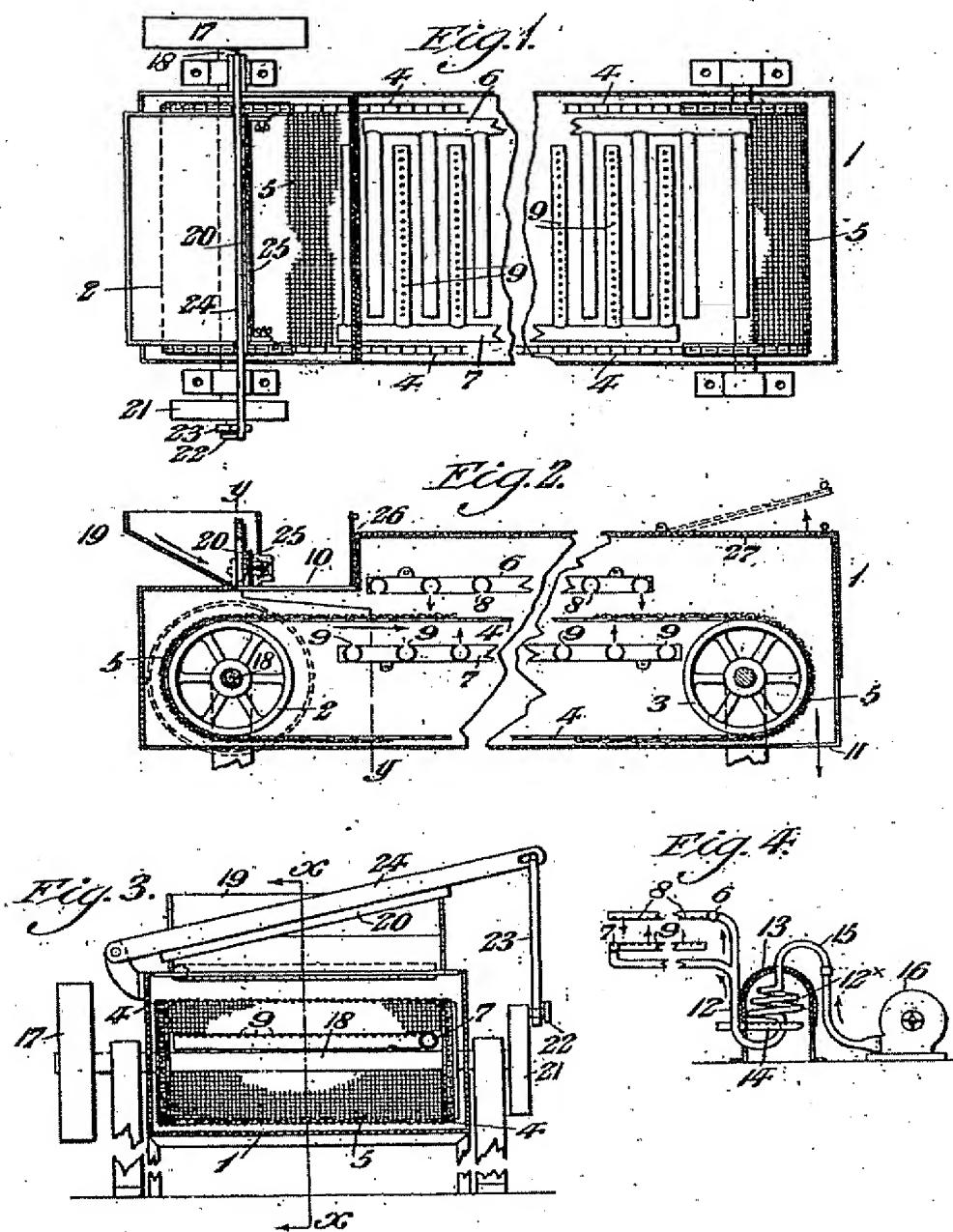
Reference has been directed, in pursuance of Section 7, Sub-section 4, of the  
10 Patents and Designs Act, 1907, to Specification No. 832 of 1869.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1916.

*(This Drawing is a reproduction of the Original on a reduced scale)*



[This Drawing is a reproduction of the Original on a reduced scale.]



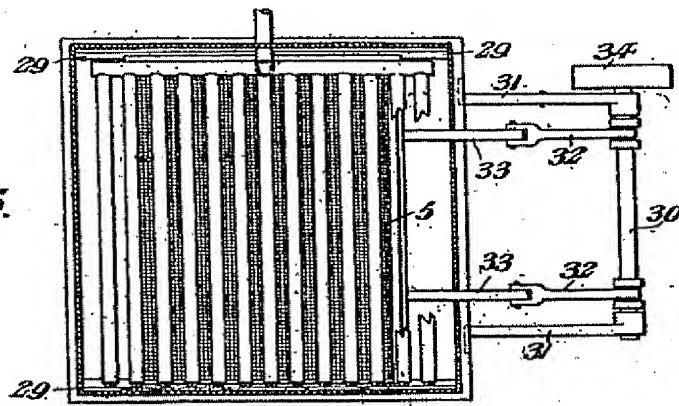


Fig. 5.

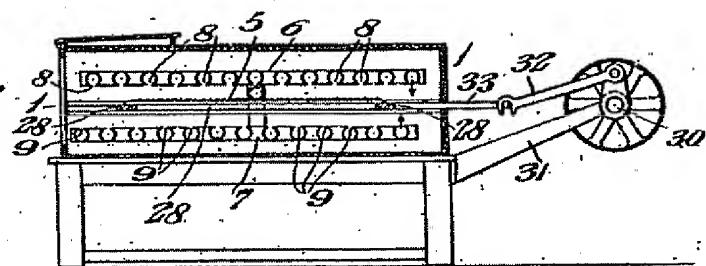


Fig. 6.

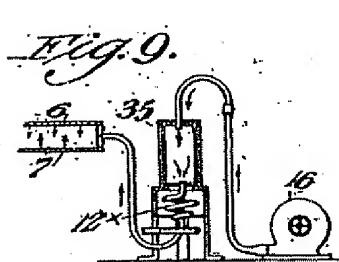


Fig. 9.

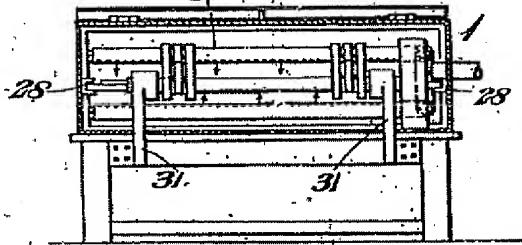


Fig. 7.

